



COMPENSATION FOR VARIABILITY IN SPECIFIC BINDING  
IN QUANTITATIVE ASSAYS

ABSTRACT OF THE DISCLOSURE

Methods for quantitatively measuring the amount of an analyte of interest in a  
5 fluid sample are disclosed. The methods involve providing a membrane having an  
application point, a contact region comprising analyte-binding particles, a sample  
capture zone, and a control capture zone, where the contact region is between the  
application point and the sample capture zone, and the sample capture region is between  
the contact region and the control capture zone. In the assays, a fluid allows transport  
10 components of the assay by capillary action through the contact region, to and through  
the sample capture zone and subsequently to and through the control capture zone. In a  
“sandwich assay” embodiment, the amount of analyte in the fluid sample is related to a  
corrected analyte-binding particle amount, which can be determined, for example, as a  
ratio of the amount of analyte-binding particles in the sample capture zone and the  
15 amount of analyte-binding particles in the control capture zone. In a “competitive  
assay” embodiment, the membrane has an application point, a contact region  
comprising analyte-coated particles, a sample capture zone, and a control capture zone,  
where the contact region is between the application point and the sample capture zone,  
and the sample capture zone is between the contact region and the control capture zone.  
20 In this “competitive assay” embodiment, the amount of analyte in the fluid sample is  
inversely related to a corrected analyte-coated particle amount, which can be  
determined, for example, as a ratio of the amount of analyte-coated particles in the  
sample capture zone and the amount of analyte-coated particles in the control capture  
zone.